

## Claims

What is claimed is:

- 5 1. A method for identifying changes in television viewing preferences of an individual, comprising the steps of:
- obtaining a viewing history indicating a set of programs that have been watched by a user;
- establishing at least two portions,  $VH_1$  and  $VH_K$ , from
- 10 said viewing history;
- generating a corresponding set of program recommendation scores,  $S_1$  and  $S_K$ , for a set of programs in a given time interval based on said at least two viewing history portions,  $VH_1$  and  $VH_K$ ; and
- 15 comparing said sets of program recommendation scores,  $S_1$  and  $S_K$ , to identify a change in said viewer preferences.
2. The method of claim 1, wherein said comparing step further comprises the step of comparing the top-N (where N is a positive integer) recommended television programs in each set,  $S_1$  and  $S_K$ .
- 20 3. The method of claim 1, further comprising the step of generating viewer profiles,  $P_1$  and  $P_K$ , corresponding to said at least two portions,  $VH_1$  and  $VH_K$ .
- 25 4. The method of claim 1, further comprising the step of presenting a user with a set of recommended programs based on one or both of said sets of programs,  $S_1$  and  $S_K$ .
- 30 5. The method of claim 1, further comprising the step of presenting a user with a union set of recommended programs based on said sets of programs,  $S_1$  and  $S_K$ .

6. The method of claim 1, further comprising the step of presenting a user with an intersection set of recommended programs based on said sets of programs,  $S_1$  and  $S_K$ .

5

7. The method of claim 1, further comprising the step of presenting a user with a set of recommended programs,  $S_K$ , based on a more recent sub-set of said viewing history.

10 8. The method of claim 1, wherein said at least two portions,  $VH_1$  and  $VH_K$ , from said viewing history are obtained by uniformly randomly sampling sub-sets of television programs from said viewing history.

9. The method of claim 1, wherein said at least two portions,  $VH_1$  and  $VH_K$ , from said viewing history are obtained by selecting a time span that is less than the entire time period covered by the viewing history.

20 10. The method of claim 9, wherein said selected time span is an earlier similar time period to a given time interval.

11. A method for managing the storage of a viewer history in a television program recommender, comprising the steps of:

25 obtaining a viewing history indicating a set of programs that have been watched by a user;

establishing at least two portions,  $VH_1$  and  $VH_K$ , from said viewing history;

30 generating viewer profiles,  $P_1$  and  $P_K$ , corresponding to said at least two portions,  $VH_1$  and  $VH_K$ ;

generating a corresponding set of program recommendation scores,  $S_1$  and  $S_K$ , for a set of programs in a given time interval based on said viewer profiles,  $P_1$  and  $P_K$ ;

comparing said sets of program recommendation scores,  
S<sub>1</sub> and S<sub>K</sub>, to identify a change in said viewer preferences; and  
deleting a portion of said viewing history if said sets  
of program recommendation scores, S<sub>1</sub> and S<sub>K</sub> are substantially  
5 similar.

12. The method of claim 11, wherein said comparing step  
further comprises the step of comparing the top-N (where N is a  
positive integer) recommended television programs in each set, S<sub>1</sub>  
10 and S<sub>K</sub>.

13. The method of claim 11, wherein said at least two  
portions, VH<sub>1</sub> and VH<sub>K</sub>, from said viewing history are obtained by  
uniformly randomly sampling sub-sets of television programs from  
said viewing history.

14. The method of claim 11, wherein said at least two  
portions, VH<sub>1</sub> and VH<sub>K</sub>, from said viewing history are obtained by  
selecting a time span that is less than the entire time period  
covered by the viewing history.

15. The method of claim 14, wherein said selected time span  
is an earlier similar time period to a given time interval.

16. A system for identifying changes in television viewing  
preferences of an individual, comprising:

a memory for storing computer readable code; and

a processor operatively coupled to said memory, said  
processor configured to:

obtain a viewing history indicating a set of programs  
that have been watched by a user;

establish at least two portions, VH<sub>1</sub> and VH<sub>K</sub>, from said  
viewing history;

generate a corresponding set of program recommendation scores,  $S_1$  and  $S_K$ , for a set of programs in a given time interval based on said at least two viewing history portions,  $VH_1$  and  $VH_K$ ; and

5           compare said sets of program recommendation scores,  $S_1$  and  $S_K$ , to identify a change in said viewer preferences.

17.           The system of claim 16, wherein said processor compares the top-N (where N is a positive integer) recommended television  
10 programs in each set,  $S_1$  and  $S_K$ .

18.           The system of claim 16, wherein said processor is further configured to generate viewer profiles,  $P_1$  and  $P_K$ , corresponding to said at least two portions,  $VH_1$  and  $VH_K$ .

19.           The system of claim 16, wherein said processor is further configured to present a user with a set of recommended programs based on one or both of said sets of programs,  $S_1$  and  
15  $S_K$ .

20.           The system of claim 16, wherein said processor is further configured to present a user with a union set of recommended programs based on said sets of programs,  $S_1$  and  $S_K$ .

21.           The system of claim 16, wherein said processor is further configured to present a user with an intersection set of recommended programs based on said sets of programs,  $S_1$  and  $S_K$ .

22.           The system of claim 16, wherein said processor is  
30 further configured to present a user with a set of recommended programs,  $S_K$ , based on a more recent sub-set of said viewing history.

23. The system of claim 16, wherein said at least two portions,  $VH_1$  and  $VH_K$ , from said viewing history are obtained by uniformly randomly sampling sub-sets of television programs from said viewing history.

5

24. The system of claim 16, wherein said at least two portions,  $VH_1$  and  $VH_K$ , from said viewing history are obtained by selecting a time span that is less than the entire time period covered by the viewing history.

10

25. The system of claim 24, wherein said selected time span is an earlier similar time period to a given time interval.

26. A system for managing the storage of a viewer history in a television program recommender, comprising:

a memory for storing computer readable code; and

a processor operatively coupled to said memory, said processor configured to:

obtain a viewing history indicating a set of programs that have been watched by a user;

establish at least two portions,  $VH_1$  and  $VH_K$ , from said viewing history;

generate viewer profiles,  $P_1$  and  $P_K$ , corresponding to said at least two portions,  $VH_1$  and  $VH_K$ ;

generate a corresponding set of program recommendation scores,  $S_1$  and  $S_K$ , for a set of programs in a given time interval based on said viewer profiles,  $P_1$  and  $P_K$ ;

compare said sets of program recommendation scores,  $S_1$  and  $S_K$ , to identify a change in said viewer preferences; and

delete a portion of said viewing history if said sets of program recommendation scores,  $S_1$  and  $S_K$  are substantially similar.

27. The system of claim 26, wherein said processor compares the top-N (where N is a positive integer) recommended television programs in each set,  $S_1$  and  $S_K$ .

5 28. The system of claim 26, wherein said at least two portions,  $VH_1$  and  $VH_K$ , from said viewing history are obtained by uniformly randomly sampling sub-sets of television programs from said viewing history.

10 29. The system of claim 26, wherein said at least two portions,  $VH_1$  and  $VH_K$ , from said viewing history are obtained by selecting a time span that is less than the entire time period covered by the viewing history.

15 30. The system of claim 29, wherein said selected time span is an earlier similar time period to a given time interval.

20 31. An article of manufacture for identifying changes in television viewing preferences of an individual, comprising:  
a computer readable medium having computer readable code means embodied thereon, said computer readable program code means comprising:

a step to obtain a viewing history indicating a set of programs that have been watched by a user;

25 a step to establish at least two portions,  $VH_1$  and  $VH_K$ , from said viewing history;

a step to generate a corresponding set of program recommendation scores,  $S_1$  and  $S_K$ , for a set of programs in a given time interval based on said at least two viewing history  
30 portions,  $VH_1$  and  $VH_K$ ; and

a step to compare said sets of program recommendation scores,  $S_1$  and  $S_K$ , to identify a change in said viewer preferences.

32. An article of manufacture for managing the storage of a viewer history in a television program recommender, comprising:

a computer readable medium having computer readable code means embodied thereon, said computer readable program code means comprising:

a step to obtain a viewing history indicating a set of programs that have been watched by a user;

a step to establish at least two portions,  $VH_1$  and  $VH_K$ , from said viewing history;

a step to generate viewer profiles,  $P_1$  and  $P_K$ , corresponding to said at least two portions,  $VH_1$  and  $VH_K$ ;

a step to generate a corresponding set of program recommendation scores,  $S_1$  and  $S_K$ , for a set of programs in a given time interval based on said viewer profiles,  $P_1$  and  $P_K$ ;

a step to compare said sets of program recommendation scores,  $S_1$  and  $S_K$ , to identify a change in said viewer preferences; and

a step to delete a portion of said viewing history if said sets of program recommendation scores,  $S_1$  and  $S_K$  are substantially similar.